

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2

GLJSHKOV, V.

"New Type of Forge in the Machine Shop." Tr. from the Russian, p. 515, Praha, Vol. 3, no. 7, July 1953.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

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CIA-RDP86-00513R000515420020-2"

GLUSHKOV, V.N., inzhener

Selection of heat energy carriers for the preheating of parts
manufactured in forging and stamping plants. Vest.mash.35
no.7:61-66 J1'55. (MLRA 8:10)
(Steel forgings) (Sheet-metal work)

GLUSHKOV, V.N., inzh.

Selecting methods for annealing billets in forging and stamping
shops. Vest. masn. 38 no.1:56-62 Ja '58. (MIRA 11:1)
(Furnaces--Heat treating) (Forging)

GLUSHKOV, V.N.

Problems of the seven-year plan; main trends in the development of forging and stamping shops at tractor plants. Mauch.
dokl.vys.shkoly; mash.i prib. no.4:22-26 '58.

(MIRA 12:5)

(Tractors--Design and construction)
(Sheet-metal work)

GLUSHKOV, V. N.

GLUSHKOV, V. N.; BOGDAN, A. D.

Indices of the technical standard of operations in forging shops.
Kuz.-shtam.proizv. 1 no.5:37-41 My '59. (Mira 12:10)
(Forging)

GLUSHKOV, V.N.

Selecting the energy carrier for continuous heating of metals.
Nauch. dokl. vys. shkoly; mash. i prib. no.2:101-158 '59.
(VIRA 12:12)
(Furnaces, Heating)

GLUSHKOV, V.N.

Technological conference on the economy of ferrous and nonferrous
metals and of electric power. Kuz. shtam. protav. 2 no. 8; 3 of cover
Ag '60.
(MIEA 14:2)
(Metalwork--Congresses)

GLUSHKOV, V.N.

Selecting a power carrier for the heating of blanks in a forge.
Kuz.-shtam. proizv. 3 no.3:33-35 Mr '61. (MIRA 14:6)
(Forge shops--Equipment and supplies)
(Lithium)

GLUSHKOV, V.N., inzh.

Some problems in the reorganization of forge and stamping shops.
Vest.mash. 41 no.7:58-62 Jl '61. (MIRA 14:6)
(Forge shops---Technological innovations)

GLUSHKOV, V.N.; BOYCHENKO, A.N.

High energy machines. Kuz.-shtam. proizv. 5 no. 2123-27 p. 163.
(MIRA 1642)
(United States--Forging machinery)

GLUSIKOV, V.N.

Scientific-technological conference "Progressive methods of metal heating before forging and die stamping and the effect of design of heating installations" at the "Uralstal" plant. Held on 3rd October 1986.

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CIA-RDP86-00513R000515420020-2

CONFIDENTIAL

Some automatic combined forging lines for crankshafts in the
United States and West Germany. Main technical inform.
Ges. automobil. inst. mainz i techn. inform. 37 no. 5
pp. 61-64.

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CHICAGO, ILLINOIS.

The second scientific technical conference on heating, West,
Washington, 45 no.4181 Ap 165. (2000 1F; 1)

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CIA-RDP86-00513R000515420020-2"

GLUSHKOV, V.N.

Second scientific and technical conference on metal heating.
Kuz.-chtam.praizv. 7 no.2247 P '65.

(MIRA 18:4)

MANUKYAN, A.A.; GLUSHKOV, V.P.; SHVEDKOVA, V.M.; SVIRIDOVA, Z.P.; CHEBOTAREVA, Ye.A.; SHUMILIN, V.I.; PUDINA, K.V.; BRAGINA, N.N.; LUTSKAYA, Ye.Ye.; KODACHENKO, A.S.; KOSOVA, V.A.; MOKLYARSKIY, B.I.; GRECHIKHIN, A.A.; KULIKOV, N.I.; RYDVANOV, N.F.; BEL'CHUK, A.I.; VINTSER, Yu.I.; ROZENTAL', Ye.I.; BELOUS, T.Ya.; SIDOROV, V.F.; ZHDANOVA, L.P.; ALEKSANDROVSKAYA, L.I.; KOVAL', V.V.; KHAVINSON, Ya.S., glavnnyy red.; SOKOLOV, I.A., zam.glavnogo red.: ALEKSEYEV, A.M., red.; ARZUMANIAN, A.A., red.; BELYAKOV, A.S., red.; BMCHIN, A.I., red.; VARGA, Ye.S., red.; LEMIN, I.M., red.; LYUBIMOVA, V.V., red.; SKOROV, G.Ye., red. V redaktsirovanií uchastvovali: SHAPIRO, A.I., red.; TATISHCHEV, S.I.. KOVRIGINA, Ye., tekhn.red.

[Economic conditions of capitalistic countries; review of business conditions for 1958 and the beginning of 1959] Ekonomicheskoe polozhenie kapitalisticheskikh stran; kon'funktturnyi obzor za 1958 g. i nachalo 1959 k. Moskva, Izd. "o "Pravda," 1959. 127 p. (Prilozhenie k zhurnalu "Mirovaya ekonomika i mezhunarodnye otnosheniya," no.8, avgust 1959 g.) (MIRA 12:9)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhunarodnykh otnosheniy. 2. Kollektiv sotrudnikov kon'funktturnego sektora Instituta mirovoy ekonomiki i mezhunarodnykh otnosheniy AN SSSR (for Glushkov, Shvedkova, Sviridova, Chebotareva, Shumilin, Pudina, Bragina, Lutskaya, Kodachenko, Kosova, Moklyarskiy, Grechikhin, Kulikov, Rydvyanov, Bel'chuk, Vintser, Rozental', Belous, Sidorov, Zhdanova, Aleksandrovskaya, Koval'). (Economic conditions)

GLUSHKOV, V.P., kand. ekon. nauk; POKROVSKIY, A.I., kand. ekon. nauk; VEBER, A.B., kand. istor. nauk; VASIL'KOV, N.P., kand. ekon. nauk; ARDATEV, G.B., kand. ekon. nauk; TIKASHKOVA, O.K., kand. ekon. nauk; KHTEL'-NITSKAYA, Ye.L., doktor ekon. nauk, otd. red.; PANTELEYEV, V.I., red. izd-va; RYLINA, Yu.V., tekhn. red.

[Government ownership in Western Europe] Gosudarstvennaja sobstvennost' v stranakh Zapadnoi Evropy. Moskva, Izd-vo Akad. nauk SSSR, 1961. 463 p.
(MIRA 14:11)

1. Akademija nauk SSSR Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy. 2. Sektor stran Zapadnoy Evropy Instituta mirovoy ekonomiki i mezhdunarodnykh otnosheniy AN SSSR (for all except Panteleyev, Rylina).

(Europe, Western--Government ownership)

KILESSO, A.I.; FARAMAZYAN, R.A.; KONONYUK, B.Z.; MARTINSEN, Z.A.;
ANDREYEV, Yu.V.; SLAVIN, S.V.; RUSETSKIY, S.B.; GLUSHKOV,
V.P., otv. red.; PLISKINA, Ye.M., red.; TIKHOMIROVA, S.G.,
tekhn. red.

[The shipbuilding industry of capitalist countries] Sudostroitel'naia promyshlennost' kapitalisticheskikh stran.
Moskva, Izd-vo AN SSSR, 1963. 471 p. (MRA 16:10)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezh-

dunarodnykh otnosheniy.

(Shipbuilding)

AVERIN, Yu.A., inzh.; GLU'SHKOV, Ye.F., inzh.; KARYAKIN, N.N., inzh.

Investigating the power factor of a.c. electric traction systems
used in rectifier electric locomotives. Trudy TSNII MPS no.156:33-48
'68.
(Electric locomotives) (Mercury-arc rectifiers)

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CIA-RDP86-00513R000515420020-2

REBRIK, B.N., kand.tekhn.nauk; GLUSHKOV, Ye.F., inzh.

New N60 a.c. locomotives. Vest.TSMII MPS 18 no.8:15-21 D
'59. (MIRA 13:9)
(Electric locomotives)

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CIA-RDP86-00513R000515420020-2"

TIKHMENEV, B.N., doktor tekhn.nauk; REBRIK, B.N., kand.tekhn.nauk; GIUSHKOV,
Ye.F., inzh.

Ways of improving the N60 diesel locomotive. Vest.TSMII MPS 20 no.3:
3-9 '61. (MIRA 14:5)

(Diesel locomotives)

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CIA-RDP86-00513R000515420020-2

Gidharai, Y.-F., Inzh.

Issues from current pulsation and the economic advantages of
smooth reactors. Vest, TSMII NPG 24 no.1:9-12 '65.

(MIRA 18:6)

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"APPROVED FOR RELEASE: 09/24/2001

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GLASNER D., Yud. No. 300.

Parameters of rectified current circuits on V163 and V180-005
electric locomotives, Trudy ISNII MIS no. 286183-92 165.

(MERA 10:8)

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"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2

REBRIK, B.N., kand.tekhn.nauk; GLUSHKOV, Ye.F., inzh,

Studying the performance of the ignitrons of a.c. electric locomotives.
Trudy TONII MPS no.286.131-139 '65.

(MIRA 18:3)

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CIA-RDP86-00513R000515420020-2"

21/1000
44-00000/001/003/010
B102/00001

AUTHORS: Ponomarev-Stepnev, A. N. Nuzikov, Yu. S.

TITLE: Some methods of determining the optimal distribution for physical design of power reactors

PERIODICAL: Atomnaya energiya, v. 11, n. 1, Jan., 1961, p. 28

TEXT: The physical design of a reactor consists in the solution of the following theoretical problem: To arrive at a given distribution law for the specific heat loss by spatial arrangement of the materials in the reactor. Some methods are discussed for treating the problem mathematically. There are two cases to be considered depending on the construction of the core: 1) reactors for which the heat-removing surface per unit volume of the core remains constant in the design of the core, and 2) reactors for which the heat-removing surface per unit mass is constant. The first case is treated first. The law of the heat escape distribution (per unit volume of the core) is given. The following calculations are made along general lines: Calculation of a thermal resistance in the core approximation. One obtains

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S/083/61/001/001/003/010
B102, BA12

Some methods of ...

$$\begin{aligned} D\nabla^2 u + \frac{\partial u}{\partial n} &= S_\theta(r) \leq (u), \\ D^{-1}\nabla(uv_{m_1}) + \sum_{j=1}^m nv_{r_j} - \sum_{j=1}^m nv_{r_j} &= q(v_{m+1}), \\ S_\theta(r) &= v_r \sum_{j=1}^m nv_{r_j}(r). \end{aligned} \quad (3)$$

its solution according to Fourier's method is given by

$$Q_\theta(r) := \frac{S_\theta(r)}{\sum_{j=1}^m nv_{r_j}(r) v_{r_j}'},$$

$$\begin{aligned} nv_{r_j}(r) &= \sum_{n=1}^m B_n \psi_n(r); \\ B_n &= A_n \frac{\int_{u_{m+1}}^{u_{m+1}} \chi(u') e^{-\alpha_n^2 \int_{u'}^r \frac{P(u'')}{\lambda^2(u'')} du''} du'}{\sum_{j=0}^m (1 + a_j L_n^{(j)2})}. \end{aligned}$$

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Some methods of ...

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where ω_n^2 indicates the eigenvalues of the problem

$$\begin{aligned} \nabla^2 \psi_n(r) &= -\omega_n^2 \psi_n(r); \\ \psi_n(R_s) &= 0. \end{aligned} \quad (A)$$

A_n are the Fourier coefficients of the function $\psi_n(r)$ which represent the density of fission-neutron sources, namely,

$$\begin{aligned} S_n(r) &= Q_3(r) J(r), \\ J(r) &= \int_{-m}^{m} v_n \sigma_{gg}(v) n \psi(r, v) dv + v_n^m \sigma_{gg}^m n \psi_m \quad (2) \end{aligned}$$

$J(\frac{r}{r})$ being the fission integral for a fissile nucleus. The problem (in image approximation) has no analytical solution for a reactor with reflector which differs in its properties from the moderator in the core. Calculation of a thermal reactor in the multigroup approximation. The solution of the matrix equation gives for the desired distribution in the core

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Some methods of ...

S/CCP/51/311/CC1/003/010
S1.17/3214

$$Q_0(r) = \frac{S_0(0)}{\sqrt{\pi n_{\text{eff}}(\bar{r}) \nu_{\text{eff}}^2}}, \quad (13)$$

This equation represents the criticality condition for the reactor. Calculation of intermediate reactors. The neutron - physical problem is not analytically solvable in this case; recourse must be had to numerical methods. One possibility, for example, is the method of successive approximations with respect to the concentration of the fissile matter. In zeroth

approximation, $\psi_0^0(\bar{r}) = S_0(\bar{r})/c^0(\bar{r})$, where $c^0(\bar{r})$ is calculated according to formula (2). With this value and the known $S_0(\bar{r})$ one has $\psi_1^0(\bar{r})$.

$= S_0(\bar{r})/c^1(\bar{r})$, and so on, till the ratio $S_0(\bar{r})/c^{(p)}(\bar{r})/\psi^{(p-1)}(\bar{r})$ in the p th approximation is a constant quantity. If the distribution law of heat emission is referred to the unit mass of the fissile material, it coincides for the thermal neutrons with the law of thermal neutron flux distribution. The problem of physical design in this case consists in a solution of the reactor equations for a given thermal neutron distribution $n\nu_{\text{eff}}(\bar{r})\psi(\bar{r})$ in

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Some methods of ...

the core. This system can be solved by the method of iteration successively in the manner of the diffusion equation. In the case of the thermal group and stepping with the radius, the equations for a cylindrical reactor with $\nu_{\infty} = B = \text{const}$ in the core can be written. The equations for the core read

$$\begin{aligned} D' \nabla^2 n \psi_0 + \sum_i^S n \psi_i + \sqrt{\nu} \sum_m^M n \psi_m &= 0 \\ D'' \nabla^2 n \psi_1 + \sum_i^S n \psi_i - \sum_m^M n \psi_m &= -\sum_i^S n \psi_i \end{aligned} \quad (14)$$

and for the reflector

$$\begin{aligned} D''' \nabla^2 n \psi_2 &= \sum_i^S n \psi_i - \psi_0 \\ D'''' \nabla^2 n \psi_3 + \sum_i^S n \psi_i - \sum_m^M n \psi_m &= -\sum_i^S n \psi_i \end{aligned}$$

With the boundary conditions

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Some methods of ...

$$\begin{aligned} n\psi_0 &= n\psi'_0 \\ n\psi_{n1} &= n\psi'_{n1} \\ D^2 \nabla_n n\psi_0 + D^2 \nabla_n n\psi'_0 &= \sqrt{\lambda} n\psi'_0 \\ D^2 \nabla_n n\psi_{n1} + D^2 \nabla_n n\psi'_{n1} &= \lambda n\psi'_{n1} \end{aligned} \quad (19)$$

one obtains as solution for the first system,

$$n\psi_0 = B \frac{\sum_m}{\sum_n} [1 + f(r)], \quad (19)$$

$n\psi_{n1} = B,$

and for the second

$$\begin{aligned} n\psi'_0 &= B A'_1 \psi'_1(r); \\ n\psi'_{n1} &= B \{A'_1 \psi'_1(r) + A'_2 \psi'_2(r)\}. \end{aligned} \quad (20)$$

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Some methods of ...

8/069/61/011/001/003/010
B102/3214

where $f(\vec{r}) = \epsilon_1 f_1(\vec{r}) + \frac{1}{\epsilon_1 - 1} \psi(\vec{r})$ if $\psi(\vec{r})$ is the solution of the equation $\nabla^2 \psi = \epsilon^2 \psi$,

$$\psi_1 = \left(1 - \frac{\epsilon^2}{L_0^2}\right) \sum_{m=0}^{\infty} \frac{c_m}{m!} r^m.$$

There are 4 figures and 2 references: 2 Soviet
sites and 2 non-Soviet sites.

SUBMITTED: JULY 7, 1968

✓

DATE 7/7

5/069/62/012/305/011/014
B102/B104

24 222
AUTHORS: Ponomarev-Stepnev, N. N., Glushkov, Ye. S.

TITLE: The problem of physical profiling of the heat release in heterogeneous power reactors

PERIODICAL: Atomnaya energiya, v. 12, no. 5, 1962, 41d-419

TEXT: Physical profiling of heat production in a homogeneous reactor has been considered in a previous paper (Atomnaya energiya, 11, no. 1, 19, 1961). A heterogeneous reactor is now considered and profiling is carried out in two-group approximation for a homogenized reactor working with

pure fissile material as fuel. With $\bar{nv}_2 \cdot \frac{5}{c_2} F = B = \text{const}$ as the

profiling condition (demand for constant specific volume heat production) the two-group reactor equations

$$D_1 \bar{nv}_1 - \frac{\bar{nv}_1 + v_5}{c_1} \bar{nv}_2 = 0; \quad (1)$$

$$D_2 \bar{nv}_2 + \frac{\bar{nv}_1 - v_5}{c_2} \bar{nv}_2 = 0.$$

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The problem of physical profiling of ...

3/089/62/012/005/011/014
B102/B104

can be written as

$$\left. \begin{aligned} D_1 \nabla^2 \bar{n}_{c_1} + \Sigma_{c_1} \bar{n}_{c_1} + \nu_s^2 f_0 B &= 0 \\ D_2 \nabla^2 \bar{n}_{c_2} + \Sigma_{c_2} \bar{n}_{c_2} - f_0 B - Q \omega_{c_2} \bar{n}_{c_2} B &= 0 \end{aligned} \right\} \quad (3).$$

σ_{c_1} is the macroscopic absorption cross section for the fuel, σ_{c_2} is that for the remaining material, ω_c is the nuclear fuel density in the lumps, ω_m moderator nuclear density, $f = V/V_l$, V_l = lump volume, V = cell volume; $\Gamma = nv_2/nv_1 = \text{const}$; $B = nv_1/nv_2 = \text{const}$; n_{c_1} , n_{c_2} and n_{c_3} are the mean neutron fluxes in cell, lump and moderator; ν_s^2 and ν_c^2 are the microscopic absorption cross sections for fuel, moderator and fuel diluent ($\nu_c^2 = C$). δ is the mean number of secondary neutrons per thermal neutron capture, D = neutron diffusion coefficient, Σ_{c_1} = macroscopic slowing-down cross section. The subscripts 1 and 2

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S/CGG/RS/CII/305/011/214

The problem of physical profiling of ... B102/B104

refer to, and are thermal neutrons. The unknown functions \bar{w}_1 , \bar{w}_2 , $\bar{\psi}$, and $\bar{\psi}_0$ can be determined if additional relations between them are known. In practice they have to be determined from the reactor design. e. g. $\bar{\psi}$ is a known function of the radius in the core, $\bar{w}_2 = \text{const}$, $\bar{\psi}_0$ is a constant, or $\bar{\psi}_0$ is a known function of the coordinates. Such possibilities are discussed in detail.

SUBMITTED: April 27, 1961

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3/30/87/32/012/308/012/014
3102/3104

26.2221

AUTHOR: Fomenkov-Prog, N. N., Glusikov, I. V.

TITLE: Solution of reactor equations with allowance for variable
moderator density in longitudinal profiling

TRANSLATOR: Kostomarov, V. L., NJ. T., D1-41

TEXT: A method is proposed for longitudinal energy release profiling with a given fission neutron source distribution. The variation of moderator density along the reactor is taken into account. The problem is solved in two-group approximation, assuming that the specific energy release is a given function of the coordinates. The reactor equations in plane

geometry

$$\left. \begin{aligned} & \frac{d}{dx} \left(D_1 \frac{d}{dx} nv_1 \right) - \Sigma_0 nv_1 - S_0(x) = 0; \\ & \frac{d}{dx} \left(D_2 \frac{d}{dx} nv_2 \right) + \Sigma_1 nv_1 - \Sigma_{c_1}^s nv_1 - \Sigma_{c_2}^s nv_2 = 0. \end{aligned} \right\} \quad (1)$$

with $S_0(x) = \frac{\rho_0 \Sigma_0}{c_1 - c_2 nv_2}$ is a given coordinate function and

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Solution of vector equations with $\star \star \star$

$\beta^1(x)/\beta^2(x) = 1/104$
 $\beta^1(x)/\beta^2(x) = 1/104$

$$D_1 := \frac{D_y^2}{\beta'(x)}; \quad \Sigma_1 := \Sigma_1^0 \beta'(x); \quad \Sigma_{c_2}^{104} := \Sigma_{c_2}^{104} \beta'(x)$$

can be rewritten as

$$\left. \begin{aligned} D_1^0 \frac{d^2 n v_1}{dy^2} + \Sigma_1^0 n v_1 &= \frac{S_n(x)}{\beta'(x)}; \\ D_2^0 \frac{d^2 n v_2}{dy^2} + \Sigma_2^0 n v_2 &= -\frac{S_n(x)}{\Sigma_{c_2}^{104} \beta'(x)}, \end{aligned} \right\}$$

\downarrow

$$dy = \beta'(x) dx.$$

also $\beta'(x)$ is a known coordinate function. Then the system (4) can be represented as $\frac{d^2 n}{dx^2} + L^2 = \omega(x)$, with

$L = \sqrt{\Sigma_1^0 + \Sigma_2^0}$

Solutions of vector equations with ...

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B102, B104

$$\Phi = \begin{pmatrix} nv_1 \\ nv_2 \\ \frac{d}{dy} nv_1 \\ \frac{d}{dy} nv_2 \end{pmatrix},$$

$$\hat{L} = \begin{pmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ \frac{1}{\tau_0} & 0 & 0 & 0 \\ -\frac{\Sigma_1^2}{D_1^2} & \frac{1}{I_3^2} & 0 & 0 \end{pmatrix};$$

$$\frac{1}{\tau_0} = \frac{\Sigma_1^2}{D_1^2} + \frac{1}{I_3^2} = \frac{\Sigma_1^2}{D_1^2}$$

$$Q(x) = \begin{pmatrix} 0 \\ 0 \\ -\frac{S_0''(x)}{D_0^2 P(x)} \\ -\frac{S_0(x)}{\sqrt{D_0^2 P(x)}} \end{pmatrix}.$$

β and $\omega(x)$ are vectors, $y = \int_0^x \beta(t)dt$. The system (1) can be solved by a usual procedure: First the homogeneous system $\frac{d\Phi}{dy}$ is solved and then a particular solution of (1) is sought. The general solution of (1) is then obtained as the sum of both.

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GARIN, V. P.; GUMENOV, V. O.; GRIGOR'YANOV, D. N.

"Materiel and equipment of the Soviet Air Force, 1970, in the hands
of personnel of the Ministry."

Report submitted for C.I.A. Int'l Conf., Internal Materiel Audit, March, 1970,
Paris, France.

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GLICHKOV, Yu. A.; KUPTIN, V. I.

"Gathering information about present situation in Soviet Union
distribution of material."

Report submitted by KGB, Leningrad Bureau, to Moscow, December,
1944 - Dec. 9.

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CIA-RDP86-00513R000515420020-2"

L 05647-67 EWT(m) JR

ACC NR: AP6021524

SOURCE CODE: UR/c089/66/c20/006/0478/0482

AUTHOR: Glushkov, Ye. S.; Ponomarev-Stepnov, N. N.

51

13

ORG: none

TITLE: Experimental study of modifying the energy release curve of reactors by re-distributing the fissionable material

SOURCE: Atomnaya energiya, v. 20, no. 6, 1966, 478-482

TOPIC TAGS: nuclear reactor power, nuclear reactor moderator, beryllium, enriched uranium, reactor neutron flux, multiplication factor

ABSTRACT: The authors report certain results of an experimental study of adjusting the distribution of energy release through the reactor by redistributing the fissionable material so as to optimize the reactor design. The experiments were carried out with critical assemblies in which the moderator was beryllium oxide and the fuel elements were teflon-4 foils containing 90% enriched uranium as a filler. The critical assemblies were rectangular in form. The fuel elements were arranged in horizontal layers and distributed over the height of the assembly. The total number of fuel elements in each layer was constant, and their distribution along one of the horizontal directions was varied. The reactor was made critical for each distribution of the fuel elements by changing the height of the assembly and its width, keeping its length and the thicknesses of the reflectors constant. The distribution of the thermal-neutron flux was measured for each assembly with the aid of indium foils. The experi-

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ACC NR: AP6021524

ments were made for four distribution profiles of the fissioning material (uniform, symmetrical with higher concentration in the center of the active zone, symmetrical with high concentration at the periphery, and asymmetrical). The space-energy distribution of the neutrons was calculated for each assembly in the diffusion many-group approximation (16 groups). The uranium concentration distribution was such that the heat release distribution per unit mass was uniform. The group calculations and the experimental results were in satisfactory agreement. Similarly, the values obtained for the effective multiplication factor obtained during the course of the calculations and in the experiment were in agreement. It is concluded that the distribution of energy release can be modified by varying the concentration of the fissioning material in real reactors, too. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 18/ SUBM DATE: 26Oct65/ ORIG REF: 005/ OTH REF: 004

Card 2/2 Lg/k

ROZHKOVSKIY, D.A.; GLUSHKOV, Yu.I.; DZHAKUSHEVA, K.G.

Nebula Omega and its environs according to photographs obtained
on the 50 cm. Maksutov telescope. Izv. Astrofiz. inst. AN Kazakh.
SSR 14:19-33 '62. (MERA 15:8)
(Nebulae)

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2

REBENKOV, D.P., GLUSHKOV, YU.I., KUCHAEV, A.V.

Results of installing a Cassegrain focusing mirror in a high-power
Maksutov telescope. Sov. JN Fizika, Vol. 5, No. 1, p. 100, 1960
(MIFI, 1960, 50-58-162).

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

DZHAKUSHEVA, K.G.; GLUSHKOV, Yu.I.; MIKHAYLOVA, N.V.; MGBHAYEVA, V.Ye.;
ROZHKOVSkiY, D.A.

Study of the astroclimate of the Alma-Ata region. Trudy
Astrofiz. inst. AN Kazakh.SSR 4:5-48 '63. (MIRA 16:11)

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2

GLUSHKOV, Yu.I.

Polarization and color indices spectrum of MCG 2-16-8. Trudy Astrofiz.
inst. AN KazSSR. SSSR 54:277-284 1965. (MIRA 18:6)

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

LOSEV, Izrail' Aleksandrovich; PUKHOV, Anatoliy Aleksandrovich; GLUSHKOV,
Yu.M., nauchnyy red.; ZAVEL'SKAYA, V.M., red. izd-va; KONTOROVICH,
A.I., tekhn. red.

[Electrical equipment of workboats and floating cranes] Elektrooborudovanie sudov i plavuchikh kranov tekhnicheskogo flota. Leningrad,
Gos. soiuznoe izd-vo sudostroit. promyshl., 1961. 326 p.

(MIRA 14:8)

(Workboats--Electric equipment) (Floating cranes--Electric equipment)

NOVOKHATKA, D. A.; GLUSHKOVA, A. A.; CHETVERIKOVA, N. M.

Reaction of phenol with methylacetylene in the presence of boron
fluoride compounds. Zhur. VKHO 7 no. 5:586 '62.
(MIRA 15:10)

1. Lisichanskiy filial Gosudarstvennogo proyektного i nauchno-
issledovatel'skogo instituta azotnoy promyshlennosti.

(Phenol) (Propyne)

L 21186-66 EWT(m)/EWP(j)/T RM
ACC NR: AP6009708 (A)

SOURCE CODE: UR/0064/66/000/003/0015/0016

AUTHOR: Novokhatka, D. A.; Matyushenkiy, B. V.; Glushkova, A. N.; Seraya, V. I.

ORG: none

TITLE: Preparation of diphenylopropane¹ from phenol and methylacetylene¹

SOURCE: Khimicheskaya promyshlennost', no. 3, 1966, 15-16

TOPIC TAGS: bisphenol A, bisparahydroxyphenylpropane, diphenylopropane, polycarbonate phenol, methylacetylene, boron trifluoride, manganese sulfate

ABSTRACT: A new preparative method has been developed for high purity 2,2-bis(4-hydroxyphenyl)propane (bisphenol-A), suitable for making polycarbonates.¹ The method is based on the alkylation of phenol with methylacetylene in the presence of boron trifluoride as catalyst. Preliminary study indicated that the yield of bisphenol-A depends on the phenol:methylacetylene molar ratio and on temperature, and that the reaction is promoted by salts of manganese, iron or bismuth taken in small amounts, i.e., 0.04%. Water inhibits the reaction. The optimum conditions are: temperature, 45-50°C; phenol:methylacetylene molar ratio, 12:1; BF_3 , 2.5%; MnSO_4 , 0.04% (both on the phenol). The catalyst can be recovered from the residual phenol in the form of a phenol complex. A flow diagram and description of the process are given in the original. The experiments conducted on a pilot plant indicated that the bisphenol-A yield is 89%, if 90% methylacetylene is used; the yield can be increased to 93-95%

Card 1/2

UDC: 547.631.4'211.07:542.973:546.273'161

L 21186-66

ACC NR: AP6009708

(on phenol reacted), if 99% methylacetylene is used. The cost per ton of bisphenol-A is calculated to be 8.2% lower than that produced by the hydrochloric acid method. [RE] Orig. art. has: 1 figure and 1 table.

SUB CODE: 07, 11/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: *H22*

Card 2/2 BK

DOLIVO-DOBROVOL'SKIY, L.B.; GLUSHKOVA, A.I.; KUZYANINA, T.K.;
EL'PINER, L.I.; YAKOVLEV, V.K.

Effect of biomycin and penicillin on the vital activity of
some algae. Biul. MOIP. Otd. biol. 67 no.1:154-155 Ja-F '62.
(ZERA 15:3)

(ALGAE)

(AUREOMYCIN)

(PENICILLIN)

БИБЛІОГРАФІЯ

100-17/2

AUTHORS: Shamovskiy, L. M., Kolionova, L. M., Glazkovskiy, S.

TITLE: A Method for the Growing of Alkali-Malide-Phosphates for Scintillation Counters (Метод вирощування скінтілляційних кристалів для стінтових скінтілляторів)

PERIODICAL: *Investiya AN SSSR Seriya Fizicheskaya*, 1955, Vol. 12, No. 1, pp. 5 - 11 (USSR)

ABSTRACT: The method worked out here for the growing of monocrystals is based on a modified method by Stokburger. Crystallization is carried out from the melt in soldered cylindrical ampoules of quartz-glass. In this variant the difficulty connected with the loss of the activator no longer exists. At the same time, a complete isolation of the salt from atmospheric humidity is attained, and thus the possibility of a chemical decomposition is excluded. The velocity with which the monocrystal is grown is given by the displacement of the ampoule against the furnace, the furnace is an octagonal furnace and is divided into two sections by a ring wall. At the tip of the ampoule-cone an insulator is placed which, in the further process, imparts the orientation to the entire crystal. It is necessary that in the crystallization zone, at the level of the ring wall or somewhat higher, the temperature distribution

Card 1/5

1-1-1/

A Method for the Growing of Alkali-Malide-Phosphors for Scintillation Crystals

in the cross section has the shape of a paraboloid of revolution with the tip in the center of the ring wall. Under these conditions the crystallization begins from a uniform center at the end of the quartz ampule and all admixtures not taken up by the crystal are displaced upwards to the melt and to the walls of the vessel. The constancy of the temperature in the furnace is maintained by a controlling potentiometer by means of the connection of a certain resistance. A platinum-platinum rhodium-thermocouple serves as transmitter for the potentiometer. The isotherm of the growth in the crystal must be unchanged during the entire process of growing. In the second chapter the activator-distribution in the crystal phosphor is investigated. The concentration of the additions in the various parts of the monocrystal does not remain constant in all these cases in which in the growing of the crystal from the melt the compositions of the solid and the liquid phase with regard to the equilibrium conditions are not in agreement. Most frequently the distribution coefficient of the introduced and the accidental admixtures between these two phases is smaller than one. Additional factors are impressed upon the equilibrium of matter of the distribution of additions. These factors are dependent on the crystallization velocity and on the diffusion coefficient of the additions in the melt. It is shown that the amplitude of

Card 2/5

A-1-1/10

A Method for the Drawing of Alk-lithalide-Phosphors for Scintillation Counters

The scintillation impulses of the given monochromatic γ -radiation change with the increase in the activator-concentration in the crystal phosphor. The third chapter deals with the selection of the activator and its dosing. It is shown that the less soluble compounds, in the case of an equal molar concentration of phosphors, form a hundred times higher concentration of the activators of the additional absorption and luminescence in one unit of volume. It is shown that only part of the introduced alkali-additions play the part of an activator in the phosphors. When sufficiently pure salts are used, quite transparent nanocrystals can be obtained with a Tl_2O -activator and the process of drawing becomes considerably simpler. The last chapter treats the annealing of the crystal phosphors. As the alkali-lhalide-crystals have a very low thermal conductivity, deformation-forces causing a mosaic structure form during a too rapid cooling. The annealing temperature and must then be slowly cooled. It is shown that at high temperatures, even though the diffusion coefficient of the addition in the crystal lattice becomes higher, the limit

Card 3/5

SL-1-1/35

Adapted for the Growing of Alkali-Halide-Phosphors for Scintillation Counters

treatment nevertheless, as the test shot, does not lead to any improvement in the composition of the crystal phospor. In the author's opinion, the most important cause of the decrease in the light-response of the luminescence in polyhedral crystals is the following: the luminescence of the crystal phosphors is the result of a recombination of the electrons with the holes at the contact-surfaces formed by the activator. The luminescence begins at contact-surfaces formed by the electrons and holes that reach these surfaces or that part of the electrons and holes that reach them first in their motion from the place where they form. A recombination of these contact-surfaces, however, is realized at ordinary temperatures without a radiation. But other inner surfaces not connected with the activator may also occur in the crystal. These are effective traps for the electrons and holes and diminish the emission of light in the scintillation. Good luminescence proves the structure of the crystals. There are "cited, in references, 3 of which are Slavic.

Card 4/5

40-1-1/20

A Method for the Growing of Alkali-Halide-Phosphors for Scintillation Counters

ASSOCIATION: All-Union Institute for Mineral Raw Materials
(Vsesoyuznyj institut mineral'nogo sryzja)

AVAILABLE: Library of Congress

1. Crystals 2. Single crystals-Growth

Card 5/5

L 31354-65 EWT(1)/I/EEC(b)-2 IJP(c)/A3 NDC/A3(mp)-2/ASD(a)-5/AFIL/SSG(a)/
RAEM(c)/ESD(gg)/ESD(t)

ACCESSION NR: AR5000760

8/06/86/64/000/000/D047/D047

23

B

SOURCE: Ref. zh. Fizika, Abs 9D351

AUTHORS: Shamovskiy, L. M.; Glushkova, A. S.

TITLE: Growing of spectrometric scintillators

CITED SOURCE: Sb. Stsintillyatory* i stsintillyats. materialy*. Khar'kov, Khar'kovsk.
un-t, 1963, 5-12

TOPIC TAGS: scintillator, spectrometry, crystal growth, fluorescence center

TRANSLATION: The authors assume that the fluorescence centers are produced in
crystal phosphors as a result of localization of the activating impurities on the structural
defects of the lattice. A new technology is proposed for growing NaI-Tl crystals,
starting from this assumption and from the experimentally demonstrated independence of
the yield of scintillations in a wide range of variation of the activator concentrations.

Card 1/2

L 31354-65

ACCESSION NR: AR5000760

The crystallization is carried out at a high temperature gradient, thus removing the danger of precipitation of the activator and of contaminating impurities in the form of a separate phase. To reduce the degree of "hydrolysis" of NaI, it is recommended to de-oxidize the melt with reducers whose oxidation products are volatile. It is proposed to exercise control over the annealing of the crystals by monitoring the change in the crystal excitation and glow spectra. T Razumova.

SUB CODE: OP, SS

ENCL: 00

Card 2/2

BREGADZE, I.L.; KORNILOVA, N.F.; SERGEYEVA, A.P.; GLUSHKOVA, A.Ya.

Changes in the absorptive capacity of the peritoneum in ~~exsan-~~
guination. Khirurgia 36 no.2:82-86 P '60. (MIRA 13:12)
(PERITONEUM)
(PEPTIC ULCER)

BLEDNYKH, N.V.; GLUSHKOVA, G.V.; SPASSKAYA, A.S.

Changes in the lability of stimulated tissues due to the effect of
vitamin B₁. Trudy Kirov. otd. Vses. fiziol. ob-sha i no.1:42-51
'60. (MIRA 14:8)

1. Fiziologicheskaya laboratoriya Kirovskogo gosudarstvennogo
pedagogicheskogo instituta imeni V.I.Lenina.
(THIAMINE)

GLUSHKOVA, I.S.; MIKHAYLOVSKIY, V.S.; FAYNZIL'BER, Ya.I.

Clinical aspects, diagnosis, and therapy of severe cerebrocranial
injuries. Vop.neirokhir. 19 no.2:15-22 Mr-Ap '55. (MLRA 8:7)

1. Iz Instituta nevrokhirurgii Ministerstva zdravookhraneniya USSR.

(HEAD, wounds and injuries,
clin. aspects, diag. & ther.)

(WOUNDS AND INJURIES,
head, clin. aspects, diag. & ther.)

GLUSHKOVA, I.S.; KANYUKA, Yu.I.; KOPYAKOVSKIY, Yu.I.; KOROL', A.P.;
LAPONOGOV, O.A.; YANOVSKIY, G.I.

Focal and general brain symptoms of supratentorial tumors of varying
histostructure. Probl.neirokhir. 4:19-32 '59. (MIRA 13:11)
(BRAIN--TUMORS)

GLUSHKOVA, I.S.; LAPONOGOV, O.A.

Meningoencephalitis with hydrocephalus appearing as a brain tumor.
Zhur. nevr. i psikh. 61 no.4:517-521 '61. (VIRKA 14:7)

1. Institut neurokhirurgii (dir. - prof. A.I.Arutyunov) Ministerstva
zdravookhraneniya USSR, Kiyev.
(MENINGITIS) (ENCEPHALITIS) (HYDROCEPHALUS)

GLUSHKOVA, I.S.

Review of A.P. Burlutskii's book "Tumors of the thyroid
gland". Vop. neirokhir. 27 no.2:63 Mr-Ap '63.
(MIRA 17:2)

PAGE 1 BOOK EXPLANATION

SOV/700

24(7)

Lvov University

Materialy i Vsesoyuznogo soveshchaniya po spektroskopii, 1956.
 t. II: Atomnaya spektroskopiya (Materialy na 10-th All-Union Conference on Spectroscopy, 1956, Vol. 2, Atomic Spectroscopy)
 Novyj Izd-vo Livoyskogo universiteta, 1958. 568 p. (Series: Its:
 Fizicheskiy obzor, vyp. 4(9); 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: O.J. Landberg, Academician, (Head, Ed.);
 B.S. Reporen', Doctor of Physical and Mathematical Sciences;
 I.L. Fabrikant, Doctor of Physical and Mathematical Sciences;
 V.I. Fabrikant, Doctor of Technical and Mathematical Sciences; S.M. Klyachko,
 V.O. Koritsky, Candidate of Technical Sciences; L.N. Klimovskiy,
 Candidate of Physico-Technical and Mathematical Sciences; A.Ye.
 (Deceased), Doctor of Physical and Mathematical Sciences;
 V.S. Klyachko,
 Candidate of Physico-Technical and Mathematical Sciences;
 G.I. Glauber, Doctor of Physical and Mathematical Sciences;
 M.I. Zil'berman, Doctor of Technical Sciences; T.V. Sazanovskiy,
 M.I. S.I. Gasky, Tech. Ed.; T.V. Sazanovskiy.

Purpose: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies on atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical organizations and include extensive bibliographies of Soviet and other sources. The studies cover all phases of spectroscopy: spectra of rare earths, electron magnetic resonance, physicochemical methods for controlling uranium production, physical and technical properties of gaseous vapors, optical and spectroscopic methods of quantitative analysis of spectroscopy, and the combustion theory. Spectral analysis of rare earths and other elements in minerals and alloys, spectral determination of the atomic weight of metals by means of isotopes, spectra of gases, and hydrogen, oxygen, carbon, nitrogen, sulfur, phosphorus, and boron. A program of spectral lines, spark spectrographic analysis, a statistical study of variation in the parameters of calibration curves, determination of tracess of metals, spectrum analysis in metallurgy, thermobehavior in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Klifchenko, A.I. Spetral'nyy metod dlya determinatsii vsekh elementov v tsilindricheskikh, diskocheskikh, vyrubocheskikh, kladrozheskikh i drugikh spetsial'nykh obogashcheniyakh. 477

Olujanova, L.A., M.A. Zarin, and A.M. Shavrin. Experimental study of the relationship between the relative intensity of the vanadium, chromium, and nickel spectral lines and the concentration in the standard samples. 433

Gutkin, R.I., and V.D. Stepanova. Spetral'nyy analiz pure metal'noy antimony. 437

Tertov, V.P., and N.I. Pugayeva. Spectrographical determination of iron, aluminum, calcium, magnesium, copper, and nickel in metal ranges of high purity. 490

Tschalata, Ye.Y., and N.I. Pugayeva. Spectrum Analysis of Uraniite for the Determination of Antimony. 491

Card 27/31

MATIS, E.G., entomolog; GLUSHKOVA, L.A., fitopatolog

Bean pests and diseases in Kustanay Province. Zashch. rast.
ot vred. i bol. 7 no.2:17 F '62. (MIRA 15:12)

1. Kustanayskaya optynaya stantsiya, Karabalykskiy rayon,
Kustanayskaya oblast'.
(Kustanay Province—Beans—Diseases and pests)

GLUSHKOVA, L. F.

S/276/80/034/868/357/014

B015/B054

AUTHORS: Shabtaiarov, M. I., Balashova, S. A., Selinuk, G. I.,
 Glushkova, L. V., Chubarev, L. P., and
 Karyanova, M. I.
 (deceased)

TITLE: Investigation of Pressure and Density of the Vapor of
 Systems Containing Organochlorine Compounds. II. The System
 Acetone - Methyl-Chloroformate - Methyl-Pyridine
 Dichloroethane

PUBLICATION: Journal Chimicheskay Khimi, 1960, Vol. 14, No. 8,
 pp. 1746-1750

NOTE: The authors determined pressure and density of the vapor of a
 mixture of halogenated alkyl methyl and vinyl chloride in a glass
 cylinder filled with water vapor or蒸气, due to its low volatility and
 easily rots paper. In the present paper, they report on the system
 benzene - methyl-dichloroformate - acetyl-chloride which has
 experimental approaches (Fig. 1) described in Ref. 1 is based on the

Card 1/3

principle of hydrostatic weighing and is thoroughly explained. The
 apparatus includes a quartz balance which is calibrated in a glass
 balloon in a thermostatic bath. The apparatus is connected by a
 connection with an Hg manometer. Balance ballon will be balanced from the
 thermally insulated, heated tube. Quartz spiral of the balance is weighed and
 quartz spiral of the balance will be weighed before the spiral is heated. The
 weight of the ballon, the quartz ballon, the spiral and the weight of the
 density can be determined from the condition of the equilibrium, and an estimate
 is made of the error of measurement. In the apparatus of determination, the
 pressure of the vapor of the system was calculated by the method of
 molecular weight of the vapor. The results were calculated by the
 Chapman equation, and the results of hydrodynamic and hydrostatic
 measurements of the relative densities are given. The results
 show that the reported approach is good. The results
 show that the reported approach is good.

Card 2/3

constant for the vapor was calculated, and given in Table 2 and Fig. 1.
 It is found that at 100°C and 1 atm the vapor composition of the system
 benzene - methyl-dichloroformate - acetyl-chloride is approximately
 practically equal to the composition of the liquid. The results of
 benzene - methyl-dichloroformate - acetyl-chloride are
 presented in Table 1. The results of hydrodynamic and
 hydrostatic measurements are given in Table 2.

ASSOCIATION: Moscow State University, Inst. of Chem.
 Technology, Moscow State University, Inst. of Chem.

October 10, 1968

Card 3/3

4/22/9 1100-1205
5/27/00 9017, 9515
S/076100-C14, J04/001/12

CONTINUATION OF LETTER NO. 1775

Cart 3/1

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

G. Lushikova, I. E.

Car 2,6

Beliefs **Beliefs** **Beliefs**

5/076/60/030/002/022
DOL5 / 3064

of concentration and for temperatures above 20° C., the decrease in density of the solution is proportional to the concentration. The decrease in density is due to the presence of water molecules which are more numerous than the solute molecules. The decrease in density is proportional to the concentration because the number of water molecules per unit volume increases as the concentration of the solute increases.

REVIEW AND SUMMARY OF THE ESTIMATION OF THE
SYSTEMIC (CH₃)₂CH-CH₂CH₂COOH AND CH₃CH₂COOH
(CH₃)₂CH-CH₂CH₂COO⁻ - CONJUGATION WAS INVESTIGATED IN THE EQUIMOLECULAR
CASE 1/6

ARTICLE: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3552073/>

二

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

BALAMUTOVA, E.A.; SHAKHPARONOV, M.I.; LEL'CHUK, S.L.; LOMOV, A.L.;
MAL'KOVA, G.N.; MARTYNOVA, M.Ye.; GLUSHKOVA, L.F.

Vapor pressure and density in systems containing organo-silicon compounds. Part 2: The systems: methyldichlorosilane-methyltrichlorosilane - methylphenyldichlorosilane and methylphenyldichlorosilane - methylchlorophenyldichlorosilane - methylchlorophenyldichlorosilane. Zhur.fiz.khim. 34 no.9: (MIRA 13:9) 1916-1919 S '60.

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Silane) (Systems (Chemistry)) (Vapor pressure)

RAPOPOV, Ye.A., inzh.; GLUSHKOVA, L.I., inzh.

Condenser discharge welding of contact brushes. Sver.
proizv. no.5:35 My '64. (VIA 18:11)

MORGUN, G.Ye.; MALINOVSKIY, M.S.; GLUSKOVA, L.V.

Formation of heterocyclic compounds from amines and ethylene glycol.
Ukr.khim.zhur. 28 no.7:852-854 '62. (MIRA 15:12)

1. L'vovskiy Gosudarstvenny universitet im.Iv.Franko.
(Heterocyclic compounds) (Amines) (Ethylene glycol)

L 26342-66 EWP(j)/EWT(m) RM

ACC NR: AP6019324

SOURCE CODE: UR/0379/65/035/008/1481/1483

AUTHOR: Zemlyanskiy, N. I.; Glushkova, L. V.

ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet)

TITLE: Synthesis of unsaturated esters of O,O-dialkyldithiophosphoric acids 7

SOURCE: Zhurnal obshchey khimii, v. 35, no. 8, 1965, 1481-1483

TOPIC TAGS: organic synthetic process; phosphate ester, brominated organic compound, insect control

ABSTRACT: With the view to developing substances effective in the control of agricultural pests, the synthesis of esters of O, O-dialkyldithiophosphoric acids with propargyl bromide or allyl bromide in an acetone solution, compounds $(RO)_2P(=S)-SR'$ (I) were prepared with 90-95% yields. When the reaction was carried out in a benzene solution, the yields were 58-67%. The following compounds were obtained: I ($R = Et, R' = CH_2-CH=CH_2$); I ($R = iso-Pr, R' = CH_2-CH=CH_2$); I ($R = n-Pr, R' = CH_2-CH=CH_2$); I ($R = n-Bu, R' = CH_2-CH=CH_2$); I ($R = Et, R' = CH_2-C=CH$); I ($R = iso-Pr, R' = CH_2-C\equiv CH$); I ($R = n-Pr, R' = CH_2-C\equiv CH$); I ($R = n-Bu, R' = CH_2-C\equiv CH$). They were liquids which could be distilled in vacuo without decomposition and were readily soluble in ether, acetone, benzene and petroleum ether, but practically insoluble in water.

Orig. art. has: 1 table. [JPRS]

SUB CODE: C7, 06 / SUBM DATE: 29Jul64 / ORIG REF: 003 / OTH REF: 001

Card 1/1 UC UDC: 547.26.118

L 51427-65 EWT(k)/EPF(c)/EWP(j)/T/EWA(c) Pg-4/Pr-4 RPL JV/RM
ACCESSION NR: AP5015487 UR/0266/BS/000/008/0021/0021
66.095.02 18
13

AUTHOR: Taranenko, A. S.; Glushkova, L. V.

TITLE: A method for producing N,N'-dinitroso-N,N'-diphenyl-n-phenylenediamine.
Class 12, No. 170064 v

SOURCE: Byulleten' izobreteniij i opyavnykh znakov, no. 8, 1965, 21

TOPIC TAGS: diamine, hydrochloric acid, acetone, sodium nitrite

ABSTRACT: This Author's Certificate introduces a method for producing N,N'-dinitroso-N,N'-diphenyl-n-phenylenediamine with sodium nitrite in the presence of an acid. The quality of the product is improved by carrying out the process in the presence of hydrochloric acid and acetone.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimikator ilya polimernykh materialov (Scientific Research Institute of Chemicals for Polymer Materials)

SUBMITTED: 08Jun64

ENCL: 00

SB CODE: OC, GC

Card 1/2

"APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2

L 51427-65

ACCESSION NR: AP5015487

NO REF Sov: 000

OTHER: 000

me
Card 2/2

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

I-06512-(7) EWT(m)/EMP(j) RM
ACC NR: AP7000480

SOURCE CODE: UR/C079/66/036/006/1118/1121

AUTHOR: Zemlyanskiy, N. I.; Prib, O. A.; Glushkova, L. V.

20
B

ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet)

TITLE: Arylation of O,O-dialkyldithiophosphates

SOURCE: Zhurnal obshchey khimii, v. 36, no. 6, 1966, 1118-1121

TOPIC TAGS: benzene derivative, sulfonic acid, ester

ABSTRACT: The reaction of certain aryl esters of benzenesulfonic acid with potassium salts of O,O-dialkyldithiophosphoric acids was studied in an effort to expand the methods of producing O,O-dialkyl-S-aryldithiophosphates, promising pesticides with low toxicity for warm-blooded animals and man. Potassium O,O-dialkyldithiophosphates in acetone solution react readily with 2,4- and 2,6-dinitrophenyl esters of benzenesulfonic acid at room temperature, producing good yields of O,O-dialkyl-S-dinitrophenyl esters of dithiophosphoric acids. The potassium O,O-dialkyldithiophosphates do not react with phenyl and mononitro- and monochlorophenyl esters of p-chloro- and p-methylbenzenesulfonic acids even with prolonged heating. Orig. art. has: 1 table. [JPRS: 37,023]

SUB CODE: 07 / SUBM DATE: 06Jul65 / ORIG REF: 004 / OTH REF: 003

Card 1/1 LS

UDC: 547.26'118

TANANAYEV, I.V.: GLUSHKOVA, M.A.; SEYFER, G.B.

Chemistry of lanthanum ferrocyanides and their application in ana-
lytic chemistry. Khim.redk.elem. no.1:58-86 '54. (MLRA 8:3)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakov
AN SSSR.
(Lanthanum ferrocyanide)

Glushikova, A. A.

CH
D

USSR

Physicochemical analysis of systems having value in analytical chemistry. XXIV. Study of reaction of formation of aluminum hydroxide by measurement of the apparent volumes of the precipitates. I. V. Tanasev and M. A.

Glushikova. Trudy Komissii ots. Khim. Akad. Nauk SSSR, Otd. Khim. Nauk 5(8), 22-33 (1954); cf. C.A. 47, 9319; 48, 5012a.—The apparent vol. of the ppt. is used to study the pptn. of Al(OH)_3 . The vol. of ppt. is plotted against the ratio OH^-/Al in the original expt. Carbonate-free NaOH soln., and $\text{Al}(\text{NO}_3)_3$ and $\text{Al}_2(\text{SO}_4)_3$ solns. const. no free acid were used. Into a 25-ml. graduated tube introduce the Al soln., H_2O_2 , and NaOH in such amounts that after addn. of the NaOH the vol. is 25 ml. Stopper the tube and then invert approx. 200 times. After a dtdl. interval read the upper boundary of the ppt. In expts. with const. Al content (0.01-0.04M) sepn. of ppt. begins when the ratio OH^-/Al is approx. 3.4. The curve has a max. at $\text{OH}^-/\text{Al} \approx 3$. At $\text{OH}^-/\text{Al} < 2.8$, Al cannot be detected in soln. and the vol. of ppt. is much less than at $\text{OH}^-/\text{Al} = 3$. At OH^-/Al somewhat above 4, the ppt. dissolves completely. After 1 hr. the max. could be noticed clearly. After 24 hrs. the vol. of ppt. was const. After several hrs. at room temp. the pts. which started out with $\text{OH}^-/\text{Al} > 3$ became whiter but the others did not change. If 1-2 ml. concd. HCl is added to each tube and mixed, the pts. formed with $\text{OH}^-/\text{Al} < 3$ quickly dissolve b/t the others remain insol. for 24 hrs. In expts. where the sum of $\text{Al}(\text{NO}_3)_3$ and NaOH concns. always equalled 0.1M, addn. of $\text{Ni}(\text{NO}_3)_2$ (0.3 and 1M) before the NaOH does not change the general outline of the curve but pptn. begins earlier. With the system $\text{Al}(\text{NO}_3)_3-\text{NH}_4\text{OH}-\text{H}_2\text{O}$ the vol. of the ppt. is a max. at $\text{OH}^-/\text{Al} \approx 3$ but for H_2O_2 the vol. of the ppt. is a max. at $\text{OH}^-/\text{Al} \geq 3$ but for H_2O_2

(over)

✓ THA/N/AF

creases sharply when more NH_4OH is added. When NH_4NO_3 (0.1 and 0.2M) is added before NH_4OH this max. is displaced to the left immediately after pptn, but on standing restores the max. to O.I. At $\text{NH}_4\text{NO}_3 = 1.0\text{M}$ the max. is displaced slightly to the right and vol. of ppt. does not decrease so sharply when excess NH_4OH is added. Pptn occurs earlier than O.I.:Al = 2. With $\text{Al}(\text{SO}_4)_2 = 0.01\text{M}$ and NH_4OH pptn, begins approx. when it dissociates $\text{Al}(\text{NO}_3)_3$. Then 2 max. are observed, at O.I.:Al = 2.5 and at 3, with a min. between them. The min. develops more rapidly at 2.5 than at 3. With $\text{Al}(\text{SO}_4)_2 = 0.02\text{M}$ and with NaCl_2 , there is only 1 max. at 2.5. For $\text{Al}(\text{SO}_4)_2 = 0.025\text{M}$ and with NH_4OH , the first max. remains the same but second max. is less sharp. (NH_4NO_3) SO_4 is added to system Al(NO_3) $_3$ - NH_4OH - H_2O with $\text{Al}(\text{NO}_3)_2 = 0.04\text{M}$. With no sulfate present, begins at O.H.:Al = 2.0. With 0.002M of $(\text{NH}_4)_2\text{SO}_4$, added the ppt. is stable at O.H.:Al = 2 and the vol. is larger. The max. is still at 3. With $(\text{NH}_4)_2\text{SO}_4$, at 0.01M this max. is at 2.5-2.7 and a very weak second max., is displaced to the right. At $(\text{NH}_4)_2\text{SO}_4 = 0.03\text{M}$ the first max. is at 2.5-2.7 and the second max. is more noticeable. At $(\text{NH}_4)_2\text{SO}_4 = 0.3\text{M}$ the first max. is at 2.5 and the second max. disappears. In significant amount, at surface the next vol. of ppt. is obtained at a point corresponding to a basic salt, i.e. $[\text{Al}(\text{OH})_4^-]\text{Al}(\text{SO}_4)_2$. No Al^+ ions are detected in solution at O.H.:Al = 2.4. Existence of secondary max. depends on many conditions. It is suggested that with a large excess of Al^{4+} the ions $\text{Al}(\text{OH})_4^-$ and $\text{Al}(\text{OH})_3^+$ are formed; with small excess of Al^{4+} colloidal $\text{Al}(\text{OH})_3$ is formed. Since, even in the presence of electrolytes, $\text{Al}(\text{OH})_3$ is more easily colloidized than OH^- or Cl^- , this may be the primary factor in determining the forms. The last intermediate stage would be a colloidal mixture, $[\text{Al}(\text{OH})_4^-]\text{Al}(\text{OH})_3^+\text{Cl}^-$, for NaOH or NH_4OH systems. $\text{Al}(\text{OH})_3^+$ and oxalate form very strong, i.e. to the left of, a ppt. of Al^{3+} as $\text{Al}(\text{OH})_3$ from bivalent cations by addition of bimac. min. excess of Na_2Ac causes the formation of a ppt. of Al^{3+} which is stable until the addition of 2.5 equivalents of Na_2Ac at which time the ppt.

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CIA-RDP86-00513R000515420020-2

TANANAYEV, I.V.; GLUSHKOVA, M.A.; SEYFER, G.B.

Ferrocyanide solubility series. Zhur.neorg.khim. 1 no.1:66-68 '56.
(MLRA 9:10)

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(Ferrocyanides)

APPROVED FOR RELEASE: 09/24/2001

CIA-RDP86-00513R000515420020-2"

Q. R. V. S. I. N. G. A. T. S.

AUTHOR: Tananaev, I.V., Seifer, G.B., and Glushkova, M.A. 560
TITLE: Ferrocyanides of Trivalent Iron (G Ferrotsianidakh Trekhvalentnovo Zheleza.)
PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry, Vol.II, No.2, pp.268-280. (U.S.S.R.) 1951)
ABSTRACT: In this investigation the behaviour of the cyanides of trivalent iron in systems with lithium, sodium, potassium, rubidium and caesium has been studied by two methods: that of solubility and that of e.m.f. measurement. The equilibrium solutions obtained in the solubility experiments were used for the parallel study of the systems by the e.m.f. method using a platinum electrode with a saturated calomel electrode. From the results obtained conclusions are drawn on the general behaviour of trivalent iron ions in and ferrocyanides of different alkali metals when present together in systems. Differences due to the nature of the individual alkali metals were also noted. The tendency, to all the alkali metals was the formation of mixed ferrocyanides of iron although the nature of these compounds was very different for the different alkali metals. The stoichiometrically normal iron ferrocyanide $\text{Fe}_4[\text{Fe}(\text{Cn})_6]_3$ is not formed with any of the systems studied. On incomplete precipitation of iron it either becomes adsorbed (systems with $\text{Li}_4[\text{Fe}(\text{Cn})_6]$, and $\text{Na}_4[\text{Fe}(\text{Cn})_6]$), or remains

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Ferrocyanides of Trivalent Iron (Cont.)

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in excess (systems with $K_n(Rb_n, Cs_n)[Fe(Cn)_6]$), an effect evidently due to coprecipitation of the alkali metal.

$M_4[Fe(Cn)_6]$ enters the precipitate as soon as the precipitation of iron is complete even with lithium and sodium. This is especially pronounced with rubidium and caesium. The contents of alkali metal in the precipitate increased according to the series K - Rb - Cs.

It appears that with potassium, rubidium and caesium mixed salts of the simplest type $M[Fe(Cn)_6]$ are formed at first. It is very likely that the salts $RbFe[Fe(Cn)_6]$ and $CsFe[Fe(Cn)_6]$ do exist, but they react easily with $M_4[Fe(Cn)_6]$ to form a second mixed salt of the composition $M_3Fe_2[Fe(Cn)_6]$.

Although the continued adsorption of $M_4[Fe(Cn)_6]$ by the precipitate makes the interpretation of the experimental curves difficult the possibility of the formation of new incongruently soluble mixed salts of definite composition is not excluded.

As regards the strength of the bond in mixed ferrocyanides of iron and alkali metals, the latter can be arranged in the usual series with caesium having the greater strength and lithium the least. Apparently in the mixed salts the alkali metals can mutually replace each other according to the above order. From this point of view mixed ferrocyanides of trivalent iron can be considered as inorganic prototypes of ion-exchange resins.

14 Figures and 7 Tables.

Card 2/2

Soviet Science

561

AUTHOR: Tananaev, I.V. and Glushkova, M.A.

TITLE: Mixed Ferrocyanides of Thallium, I. Mixed Ferrocyanides of Thallium with Magnesium, Calcium and Strontium. (Osmeshannykh Ferrotsianidakh Talliya, I. Smeshannye Ferrotsianidy talliya s Magniem, Kal'tsiem i Strontsiem).

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry), Vol. II, No. 2, pp. 281-286. (U.S.S.R.) [5]

ABSTRACT: With the object of embracing as large a number of possible types of compounds formed by ferrocyanides of thallium with the ferrocyanides of other metals, systems for investigation were chosen in such a way that the valency of the metals represented in them should be different. In the present communication results of the study of solubility in the systems $TlNO_3 - E, [Fe(CN)_6] - H_2O$ ($E = Mg, Ca, Sr$) by the physico-chemical analysis method. It was found that mixed ferrocyanides of the type $TlE [Fe(CN)_6]$ were formed, except with magnesium for which a second mixed salt of the composition $Tl_{10}Mg_7 [Fe(CN)_6]_6$ was isolated. The solubility of the mixed ferrocyanides of thallium and the alkali metals increased from magnesium to strontium being 2×10^{-3} , 3.4×10^{-4} and 3.6×10^{-3} mol/litre at 20°C. Comparison of data from the literature on the composition of mixed ferrocyanides of alkali-earth and alkali metals and those obtained in the present investigation shows that the analogous thallium compounds we obtained closely

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Mixed Ferrocyanides of Thallium. I. Mixed Ferrocyanides of Thallium with Magnesium, Calcium and Strontium (Cont.)
resemble them: this is indicated by the fact that they all belong to the single type $M_2E [Fe(CN)_6]$. As regards solubility in water, the compounds of thallium considered most closely resemble the corresponding rubidium and caesium compounds.

There are 7 references, one of them Russian.

There are 3 figures and 3 tables.

Received on 22nd October, 1956.

Card 2/2

Glushkova, M. A.

78-3-13/35

AUTHORS: Tananayev, I. V. and Glushkova, M. A.

TITLE: Mixed Ferrocyanides of Thallium. (O smeshannykh ferrotsianidakh talliya.) II. Mixed Ferrocyanides of Thallium with Copper and Nickel. (II. Smeshannyye ferrotsianidy talliya s med'yu i nikel'em.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 586-593. (USSR)

ABSTRACT: This investigation had as its aim to fill the gap in the literature on the nature of the reaction of copper and nickel ions with ferrocyanide ions in the presence of thallium. The potential importance of such an investigation is that the information it provided will be used to decide whether thallium in very low concentration could be isolated from solutions containing certain non-ferrous metals. Ordinary methods of chemical analysis were used in this investigation to study systems consisting of Tl^+ , E^{2+} ($E = Cu, Ni$) and $[Fe(CN)_6]^{4-}$. It is concluded that the slightly soluble mixed ferrocyanide of thallium and copper,

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78-3-13/35

Mixed Ferrocyanides of Thallium. II.

$Tl_2Cu_2[Fe(CN)_6]_2$, is formed from the appropriate ions for the whole range of concentrations dealt with. The solubility of the compound formed as a result of the displacement of Cu^{2+} ions by Tl^+ ions from a precipitate of $Cu_2[Fe(CN)_6]$ was found to be so small that a suspension of this precipitate can be used to separate small quantities of thallium from solution. The mixed salt $Tl_4Ni_4[Fe(CN)_6]_3$ was formed by the reaction of Tl^+ with Ni^{2+} and $[Fe(CN)_6]^{4-}$ ions. The solubility of the precipitate of this salt, formed by the reaction of Tl^+ ions with a precipitate of nickel ferrocyanide is so low that it, too, can be used for separating small quantities of thallium from solution. There are 4 figures, 7 tables, and 6 references 2 of which are Slavic.

SUBMITTED: October 26, 1956.

AVAILABLE: Library of Congress.
Card 2/2

78-3-14/35

AUTHORS: Tananayev, I. V. and Glushkova, M. A.

TITLE: Ferrocyanides of Thallium. (O Ferrotsianidakh talliya.) III. Mixed ferrocyanides of thallium with uranyl. (III. Smeshannye ferrotsianidy talliya s uranilom.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3,
pp. 594-599. (USSR)

ABSTRACT: An account is given of the study of the solubility of the system $TlNO_3 \cdot UO_2(NO_3)_2 \cdot Li_4[Fe(CN)_6] \cdot H_2O$ at $25^{\circ}C$. Solutions of these compounds were used, the molarity of the thallium nitrate solution being determined by precipitating thallium as chromate, that of lithium cyanide by titration of a known volume of the original solution by potassium manganate in sulphuric acid using crystal violet as an indicator. The concentration of the uranium salt was determined by precipitation of $(UO_2)^{2+}$ in the presence of carbonate-free ammonium nitrate, the precipitate after washing and calcining being weighed as U_3O_8 . No formation of

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78-3-14, 30

Ferrocyanides of Thallium. III.

the simple ferrocyanide of uranyl, the reaction of the ions leading to the formation of two mixed ferrocyanides of thallium and uranium with the compositions: $Tl_2(UO_2)_3[Fe(CN)_6]_2$ and $Tl_4(UO_2)_4[Fe(CN)_6]_3$. All the alkaline metals and thallium can be arranged in the following series with respect to their ability to displace $[UO_2]^{2+}$ ions from the precipitate of $(UO_2)_2[Fe(CN)_6]$: Tl is > Cs > Rb > K > Na > Li, from which it follows that suspensions of this precipitate can be used for separating small quantities of thallium from solution. There are 2 figures, 6 tables, and 3 references 2 of which are Slavic.

SUBMITTED: November 19, 1956.

AVAILABLE: Library of Congress.

Card 2/2

S. V. Shchegoleva et al.

TANANAYEV, I.V.; GIUSHKOVA, M.A.

Thallium ferrocyanides. Part 4: Mixed ferrocyanides of thallium
with lanthanum and cerium. Zhur. neorg. khim. 2 10:2474-2482
0 '57. (MIRA 11:3)
(Thallium ferrocyanide) (Lanthanum) (Cerium)

SOV/76-4-7-33/44

5(2)
AUTHOR:

Glushkova, M. A.

TITLE:

On the Reaction of the Formation of the Hydroxide of Trivalent Thallium (O reaktsii obrazovaniya gidroksisi trekhvalentnogo talliya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, vol 4, Nr 7,
pp 1657-1660 (USSR)

ABSTRACT:

Whereas the system $\text{Al}(\text{NO}_3)_3 - \text{NaOH} - \text{H}_2\text{O}$ and the corresponding systems of gallium and indium have already been investigated (Refs 1,2,3), only very few published data are available for thallium hydroxide, because most investigations (Refs 4-11) deal with Tl_2O_3 . The present paper investigates the formation of thallium hydroxide in the system $\text{TlCl}_3 - \text{NaOH} - \text{H}_2\text{O}$ by means of the method of the solubility and by measuring the apparent volume of precipitations. It follows from table 1 and figure 1 that the reaction between TlCl_3 and NaOH is accompanied by the formation of practically pure Tl(OH)_3 . Only in the case of a considerable surplus of TlCl_3 does the precipitate adsorb Tl^{3+} .

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SOV/78-4-7-31/46

On the Reaction of the Formation of the Hydroxide of Trivalent Thallium

ions or $TlCl_3$. Basic salts, such as occur in Al, Ga, In, do not form, so that Tl in this respect forms an exception. The apparent volume of the precipitates is given by table 2 and figure 2. In the case of an excess of $TlCl_2$, the precipitate is, however, compact (probably because of the adsorption mentioned), whereas it is loose at the stoichiometric point. In the case of an excess of alkali, no considerable variation of the volume of the precipitate occurs. There are 2 figures, 7 tables and 12 references, 4 of which are Soviet.

SUBMITTED: April 4, 1958

Card 2/2

88471

S/078/61/006/001/003/019
B017/B054

5.2100

AUTHOR: Glushkova, M. A.

TITLE: Molybdonitrile Chloride

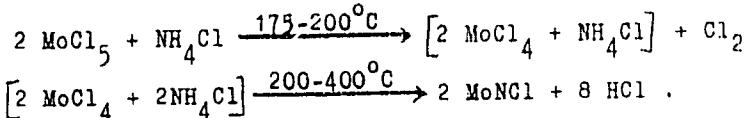
PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1,
pp. 15 - 17

TEXT: The author reports on the synthesis of MoNCl from MoCl_5 and NH_4Cl . A mixture of the two reagents (1 : 3) was heated in a crucible furnace in argon atmosphere. Black MoNCl powder was isolated as end product of the reaction of MoCl_5 and NH_4Cl at 350 and 400°C. MoNCl is stable in air, not hydrolyzable by water, and insoluble in sulfuric acid. It is nearly insoluble in benzene, chloroform, and methyl alcohol. An analysis yielded the ratio of Mo : N : Cl = 1.03 : 1.02 : 1 at 400°C. The tetravalence of molybdenum in MoNCl was confirmed permanganatometrically. During the reaction, pentavalent molybdenum is transformed into tetravalent one, and MoNCl is formed according to the following equations:

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Molybdonitrile Chloride

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B017/B054

The amorphous character of MoNCI was established by X-ray analysis.
Molybdenum nitride, MoN, is formed on heating MoNCI up to 900°C. Thus,

Mo⁴⁺ shows a higher stability as compared with the nitrile chloride derivatives of P and Nb. I. V. Tananayev, G. B. Seyfer, and Ye. A. Ionova are mentioned. There are 1 figure, 2 tables, and 8 references: 3 Soviet, 4 German, and 1 British.

SUBMITTED: June 21, 1960

Card 2/2

88472

S/078/61/006/001/004/019
B017/B054

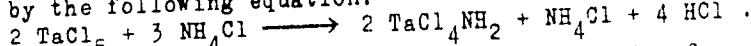
5.2200

AUTHORS: Glushkova, M. A., Yevteyeva, M. M.

TITLE: Tantalum Analogue of Phosphonitrile Chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1,
pp. 18 - 20

TEXT: The authors studied the reaction between tantalum pentachloride and ammonium chloride. Tantalum pentachloride was produced by chlorination of metallic tantalum in a chlorine flow at 250 + 350°C by I. S. Morozov's method (Ref.11). Analyses of reaction products of $TaCl_5$ with NH_4Cl yielded a ratio of Ta : N : Cl = 1 : 2 : 5. The nonreacted excess NH_4Cl was removed by sublimation. At 250°C, $TaCl_5$ and NH_4Cl react with generation of HCl. At 350°C, HCl is fully driven out. The course of reaction at 250°C is expressed by the following equation:



The compound isolated at 350°C has a mean atomic ratio of

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88472

Tantalum Analogue of Phosphonitrile Chloride S/073/61/006/001/004/019
B017/B054

Ta : N : Cl = 1 : 0.99 : 2.20. This ratio suggests the existence of $TaNCl_2$. A phase analysis confirmed the existence of this compound. $TaNCl_2$ is a yellowish-green, air-resistant powder, insoluble in mineral acids with the exception of HF. By boiling with concentrated alkali hydroxide, $TaNCl_2$ decomposes with formation of tantalum hydroxide. In organic solvents, $TaNCl_2$ is nearly insoluble; no decomposition occurs on heating to 500°C. X
There are 1 table and 12 references: 5 Soviet, 2 US, and 7 German.

SUBMITTED: June 22, 1960

Card 2/2

S/078/61/006/0C2/004/017
B017/B054

AUTHORS: Glushkova, M. A., Petushkova, S. M.

TITLE: Ferrocyanides of Gadolinium

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 2,
pp. 349 - 353

TEXT: The authors studied the reaction of the gadolinium ion with alkali ferrocyanides by solubility determinations, measurements of electrical conductivity, and analysis of the solid phases. Results of investigation of the system $GdCl_3 - M_4[Fe(CN)_6] - H_2O$ ($M = Li, Na, K, Rb, Cs$) are given

in Fig. 4. It was found that a simple gadolinium ferrocyanide of the composition $Gd_4[Fe(CN)_6]_3$ was formed in the reaction of $GdCl_3$ with $Li_4[Fe(CN)_6]$. The existence of this compound was confirmed by measurements of electrical conductivity and emf. The reaction of $GdCl_3$ with $Na_4[Fe(CN)_6]$ proceeds stepwise. First, $Gd_4[Fe(CN)_6]_3$ is formed, and then $NaGd[Fe(CN)_6]$. Fig. 4

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Ferrocyanides of Gadolinium

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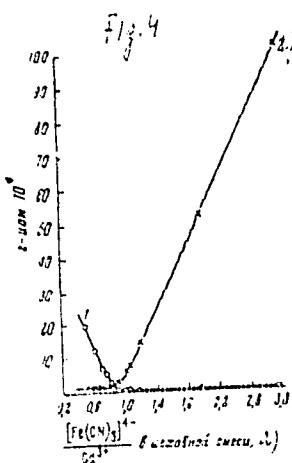
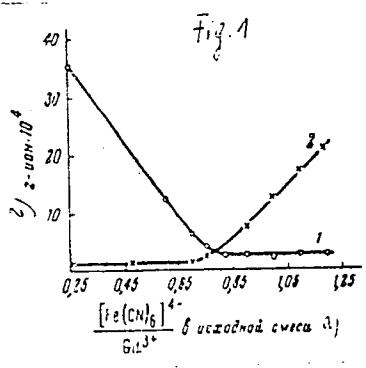
shows the interaction in the system $\text{GdCl}_3 - \text{Na}_4[\text{Fe}(\text{CN})_6] - \text{E}_2\text{O}$, and Fig. 5 the change in emf and the potential jumps. In the reaction of GdCl_3 with the ferrocyanides of potassium, rubidium, and cesium, compounds of the type $\text{MGd}[\text{Fe}(\text{CN})_6]$ ($M = \text{K}, \text{Rb}, \text{Cs}$) are formed. The solubilities of $\text{Gd}_4[\text{Fe}(\text{CN})_6]$, $\text{NaGd}[\text{Fe}(\text{CN})_6]$, $\text{KGd}[\text{Fe}(\text{CN})_6]$, $\text{RbGd}[\text{Fe}(\text{CN})_6]$, and $\text{CsGd}[\text{Fe}(\text{CN})_6]$ in water at 25°C are: $1.6 \cdot 10^{-4}$, $6 \cdot 10^{-4}$, $2.2 \cdot 10^{-4}$, $1.2 \cdot 10^{-4}$, and $2.8 \cdot 10^{-5}$ mole/l. With the solubility determination of $\text{CsGd}[\text{Fe}(\text{CN})_6]$, gadolinium can be determined in pure solutions by the potentiometric method. The authors refer to corresponding investigations carried out at the laboratoriya khimii i analiza redkikh elementov Instituta obshchey i neorganicheskoy khimii AN SSSR im. N. S. Kurnakova (Laboratory of Chemistry and Analysis of Rare Elements of the Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the AS USSR), and mention I. V. Tananayev, M. A. Glushkova, G. B. Seyfer, and G. V. Shevchenko. There are 11 figures, 2 tables, and 8 references: 5 Soviet.

Card 2/4

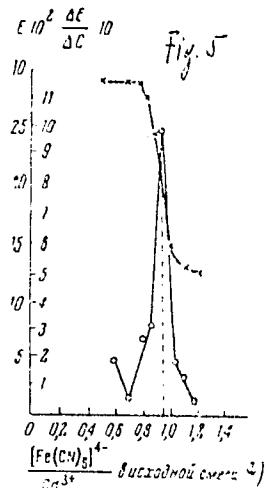
Ferrocyanides of Gadolinium

S/078/61/006/002/004/017
B017/B054

SUBMITTED: November 19, 1959



Card 3/4



S/078/61/C06/002/004/017
BC17/3054

Legend to Fig. 1: a) in initial mixture; b) g/ion. 10^4 ; 1: Gd^{3+} ; 2: $[Fe(CN)_6]^{4-}$. Legend to Figs. 4, 5: a) in initial mixture; 1, 2 as in Fig. 1

Card 4/4